

This listing of claims will replace all prior versions, and
listings, of claims in the application.

Listing of the claims:

1. (Currently Amended) An isolated polynucleotide that encodes a human $\beta 1A$ sodium channel subunit protein, said polynucleotide comprising a ~~member~~ sequence selected from a group consisting of:

- (a) ~~a polynucleotide having at least a 75% identity to a polynucleotide encoding a polypeptide consisting of amino acids 1 to 268 of SEQ. ID. NO. SEQ ID NO:14;~~
- (b) ~~a polynucleotide having at least 75% identity to a polynucleotide encoding a polypeptide consisting of comprising amino acids 150 to 268 of SEQ. ID. NO. SEQ ID NO:14;~~
- (c) ~~a polynucleotide which is complementary to the polynucleotide of (a) or (b); and~~
- (d) ~~a polynucleotide comprising at least 15 sequential bases of the polynucleotide of (a), (b), or (c).~~

2. (Original) The polynucleotide of claim 1 wherein the polynucleotide is RNA.

3. (Original) The polynucleotide of claim 1 wherein the polynucleotide is DNA.

4. (Currently Amended) The polynucleotide of claim 1, having a nucleotide sequence selected from a the group consisting of ~~(SEQ. ID. NO. SEQ ID NO:12)~~ and ~~(SEQ. ID. NO. SEQ ID NO:13)~~.

5. (Currently Amended) The polynucleotide of claim 41 ~~further~~ having a nucleotide sequence selected from the group consisting of allelic variants, ~~mutants~~, and ~~functional derivatives of~~ ~~(SEQ. ID. NO. SEQ ID NO:12)~~ and ~~(SEQ. ID. NO. SEQ ID NO:13)~~.

6. (Currently Amended) The polynucleotide of claim 1, wherein said ~~DNA molecule~~ polynucleotide is genomic DNA.

7. (Currently Amended) An expression vector for expression of a human β 1A sodium channel subunit protein in a recombinant host, wherein said vector contains a recombinant gene polynucleotide encoding a ~~human β 1A sodium channel subunit protein and functional derivatives thereof~~ SEQ ID NO:14.

8. (Currently Amended) The expression vector of claim '7,
wherein the expression vector contains a ~~cloned gene~~
polynucleotide encoding a ~~Human~~ human β 1A sodium channel subunit
protein, and having a nucleotide sequence selected from a the
group consisting of ~~(SEQ. ID. NO. SEQ ID NO:12)~~, SEQ ID NO:13,
allelic variants of SEQ ID NOs:12 or 13, and ~~(SEQ. ID. NO.:13)~~
functional derivatives of SEQ ID NOs:12 or 13.

9. (Currently Amended) The expression vector of claim 8,
wherein the ~~group further consists of allelic variants, mutants,~~
~~and functional derivatives of~~ nucleotide sequence is
~~SEQ. ID. NO. SEQ ID NO:12 and or SEQ. ID. NO. SEQ ID NO:13.~~

10. (Currently Amended) The expression vector of claim 7,
wherein the expression vector contains genomic DNA encoding a
~~Human~~ human β 1A sodium channel subunit protein of SEQ ID NO:14.

11. (Currently Amended) A ~~recombinant~~ host cell containing a
~~recombinantly cloned gene~~ recombinant polynucleotide encoding a
~~Human~~ human β 1A sodium channel subunit protein of SEQ ID NO:14
or a functional derivative thereof.

12. (Currently Amended) The ~~recombinant~~ host cell of claim 11, wherein said gene polynucleotide has a nucleotide sequence selected from a the group consisting of: ~~(SEQ. ID. NO.:12)~~, SEQ ID NO:12, ~~(SEQ. ID. NO.:13)~~, and ~~SEQ ID NO:13~~functional derivatives thereof.

13. (Currently Amended) The ~~recombinant~~ host cell of claim 11, wherein said ~~cloned gene polynucleotide~~ is genomic DNA.

14-16 Withdrawn

17. (Currently Amended) A process for ~~expression of~~ expressing a ~~Human~~ human β 1A sodium channel subunit protein in a ~~recombinant~~ host cell, comprising:

(a) introducing an expression vector encoding a human β 1A sodium channel subunit protein, into a cell, wherein the vector comprising comprises a nucleic acid sequence capable of hybridizing ~~under stringent hybridization conditions~~ to a nucleotide sequence, ~~or its complementary sequence~~, having the sequence of SEQ ID NO:12 or SEQ ID NO:13, or its complementary sequence, wherein the hybridization conditions comprise incubation in 50% formamide, 6X SSC, 1% SDS at 42 C for 12-19

hours, washing in at least two successive washes at 22 C,
followed by stringent washes at 65 C in a buffer of 0.04M sodium
phosphate, pH 7.2, 1% SDS and 1mM EDTA;

(b) culturing the cell of step (a) under conditions which
allow expression of a protein encoded by the ~~nucleotide sequence~~
expression vector.

18-35 (Withdrawn)